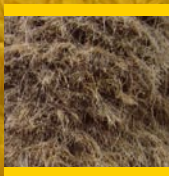


Building the Market Chain



Emmer in Turkey

An ancient cereal maintained by mountain farmers



Emmer (*Triticum dicoccon*) has been cultivated in the Fertile Crescent of the Middle East for 10 000 years. It is one of a family of three ancient crops, known as hulled wheats, whose once-popular cultivation has dwindled in recent years. The other two are einkorn (*Triticum monococcum*) and spelt (*Triticum spelta*).



Emmer spread to Europe from the Near East in the Neolithic period. During Roman times, it was the main food grain in much of Europe. From the beginning of the 20th century, however, farmers began to turn away from emmer in favour of common and durum wheat (naked wheats), which are easier to clean and process and have higher yields. As a consequence, emmer almost disappeared from Europe and the Near East in the second half of the 20th century.

Turkey was no exception to this trend. Emmer cultivation decreased radically from the beginning of the last century. The only remaining pockets of emmer today are grown by resource-poor farmers in marginal areas at 1000-2000 metres above sea level. These farmers use emmer mainly as animal feed. The main areas of emmer production in Turkey today are in Kastamonu and Sinop provinces, in the central northern part of the country. No other crop can be grown as successfully in these areas. Nevertheless, its survival may also be at risk here too because of changes in taste, the increased impact of global and regional markets, difficulties in processing and limited marketing.

On the positive side, new market opportunities may be on the horizon thanks to emmer's nutritional and health properties. Already there is evidence of a growing appreciation of emmer among niche consumers in towns, creating new market opportunities.

Market chain – Livelihoods improved using natural resources



The use of emmer

Until about 40 years ago, people in Turkey grew their own emmer, which they used for food, particularly for making bread. Today, it is used mainly for animal feed since raising livestock is more profitable than cropping. The available evidence suggests that, throughout the country, emmer has been largely replaced by modern wheat varieties, which have greater appeal to consumers and are widely available at a lower price. Emmer is regarded as ‘food of the poor’ because it is cultivated only in the areas where modern wheat cannot be grown because the soils are too poor or the farmers cannot afford the inputs wheat requires. It is only used for human consumption in the remote provinces of Kastamonu and Sinop. Around the villages of Sinop province, emmer is mainly used on the farms where it is grown for animal feed and, very rarely, to make bread or bulgur. In Kastamonu province, by contrast, city dwellers and farmers, eat emmer bulgur in soups and consider it healthier and tastier, in both flavour and texture, than wheat bulgur. Bulgur made from emmer sells for a higher price than wheat bulgur due to the longer processing involved.





The market chain

Emmer is mainly sold in the form of bulgur at village markets. The actors involved in the emmer bulgur market chain are: farmers, farmer-traders, millers, retailers and consumers. Farmers growing emmer can be divided into two groups: 1) farmers who grow emmer solely for household consumption; and 2) farmer-traders who grow emmer both for household consumption and for sale. Only emmer farmers are found in Sinop province, while both farmers and farmer-traders are found in Kastamonu province. The main emmer market channels are:

- Farmer-traders have their product milled and then sell the bulgur directly to consumers at the villagers' market in Kastamonu town.
- Farmer-traders sell the bulgur to retailers, who then sell it to consumers
- Farmer-traders sell their emmer to millers, who then mill it and sell the bulgur to retailers or directly to consumers.

After harvest, the farmers and farmer-traders boil and dry the grain before taking it to the millers for de-hulling and milling to yield the bulgur. The millers usually keep 10–15% of the final product as payment; farmers rarely pay in cash. The milling process is long and difficult and losses of 40–50% are normal. For this reason, few mills are willing to process emmer bulgur, as it is not very profitable for them. However, the mills play a major role in the chain as they can determine how much emmer bulgur is brought to market. Farmer-traders sell emmer bulgur at a price of 2 YTL per kg (Turkish New Lira, 1.8 YTL = 1 Euro), almost double the price of wheat bulgur. A few farmer-traders sell their emmer bulgur to retailers at a lower price of 1.5 YTL per kg, giving the retailers a mark up of 33%. In sum, farmer-traders earn a reasonable income if they can market their emmer bulgur.

Local recipes

The following recipes come from a household in Kirik, in Kastamonu province. The bulgur pilaf is an everyday dish.



Siyez pilaf **(emmer bulgur pilaf** **with tomato sauce)**

Cut an onion into small pieces and cook it in olive oil, then add salt, pepper and tomato concentrate. Add emmer bulgur and water to cover and simmer until grain is soft. It can be served alone or with meat or eggs.

Sor siyez pilaf **(emmer bulgur pilaf** **with yogurt)**

Cook emmer bulgur in ayran¹ or yoghurt and add mint and parsley.

Siyez dolma **(grape leaves filled** **with emmer bulgur)**

Cook grape leaves with olive oil and stuff with a spicy emmer bulgur mixture. The bulgur can also be mixed with cooked minced meat. The dolmas are served hot with yogurt and minced garlic.

Siyez çorba **(emmer soup)**

Boil fine bulgur in a mixture of equal parts water and milk. Add salt, pepper, spices and meat.

¹ Ayran is a mixture of yoghurt, water, and salt. It is a popular drink in Turkey, Azerbaijan, Syria and Lebanon.





Biodiversity marketing

Opportunities



Enabling factors for the production and market development of emmer in Turkey are:

- Emmer is still appreciated by consumers in rural areas of Kastamonu province and there is a growing appreciation among people living in town. Traditionally, emmer has been recognized as a tasty health food and the market for organic health products in Turkey is increasing, as is the awareness about the nutritional properties of emmer. Preliminary results in Turkish studies show that emmer helps control cholesterol and diabetes. Pasta makers and flour mills in Turkey are also showing an increasing interest in emmer due to its nutritional benefits.
- Intra-specific diversity of emmer is recognized to play a role in adaptation to different environmental conditions. There has been some initial research on emmer characterization. Both local and international scientists are showing increasing interest in emmer.
- The technology is already available to process emmer faster and with higher quality (using rice processing machines, as well as modern stone mills).
- Emmer is suitable for organic production and yields well in harsh environments. Hence, it can be produced by

small-scale resource-poor farmers. Emmer represents an opportunity to diversify livelihood strategies (for nutrition and income generation).



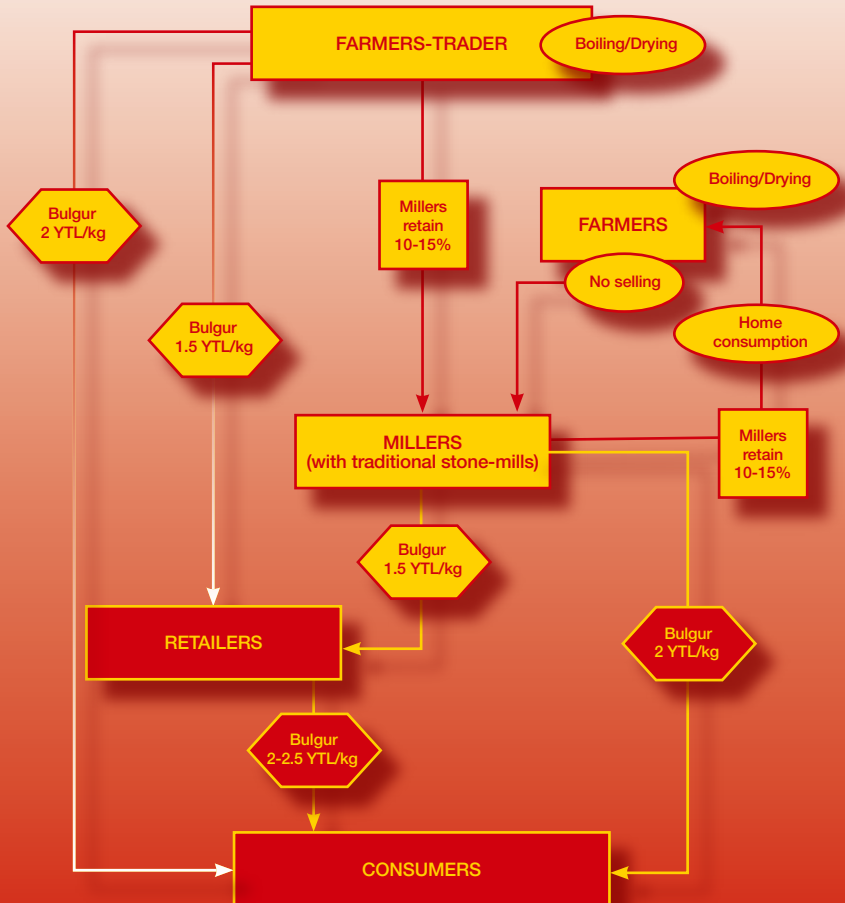
Constraints


The main constraints to emmer production and marketing in Turkey are:

- Lack of knowledge on emmer's nutritional properties and of the existing genetic diversity.
- Declining number of producers due to migration and change of activities.
- Processing is difficult and time consuming.
- Product packaging is poor and storage facilities are inadequate.
- Lack of policy support or incentives for the production of emmer.
- Emmer producers have poor access to markets and market information (poor infrastructure). Lack of integration and transparency among millers, processors and traders.
- The market chain is not well organized, without a farmers' association, horizontal or vertical integration.
- Local consumption is limited and emmer is seen as 'food for the poor'.



Emmer bulgur market chain





The Italian experience: increasing the production and market of 'farro' (emmer)

In Italy, farmers have cultivated emmer for centuries in the harsh conditions of the Apennine mountains. As in Turkey, the introduction of durum wheat to Italy caused a drastic reduction in emmer cultivation in the 20th century. However, in the last 15 years, emmer has increasingly regained popularity due to a growing interest in health foods, in local traditions and traditional foods, in agrobiodiversity conservation and in the diversification of cropping systems. In Italy, emmer is considered a 'modern health food' due to its high levels of fibre, protein and vitamin B complex and its suitability for organic production. The enabling environment for the market success of emmer was made possible by the national research community's support for agrobiodiversity maintenance, and political support for the development of remote rural areas and the improvement of mountain people's livelihoods. Finally, elements in the private sector, such as processors, started to differentiate emmer products, targeting the 'health food' niche market and, increasingly, large channel markets, such as supermarkets. Emmer flour can substitute for wheat flour in most bakery products, such as breads, pasta, biscuits and cakes, so modern cooks are rediscovering the full flavour of whole grain emmer pasta and bread. The difficulties of processing and cleaning emmer grain have been overcome by adapting machines designed for rice processing.

The production of emmer has become increasingly widespread, both in its 'traditional' areas and in other areas where it has recently been introduced and where it is grown on large farms. This situation has generated strong market competition. To cope with this challenge, a farmers' cooperative in the Garfagnana region (Tuscany), a traditional emmer production area, successfully requested the certification of its emmer as Protected Geographic Indication (PGI). This label is an effective tool to ensure product quality and benefits at the producer level as well as protecting local varieties.

Research study

The information in this brochure is taken from a research study carried out in Turkey, analysing the market chain of emmer, the sustainability of its production and marketing and its impact on the livelihoods of the mountain communities still producing this crop. It assessed the type of products and the nature of the participants involved, analysed the constraints affecting them and assessed the market potential of this ancient cereal. The study used primary and secondary data collected in Turkey throughout 2006. Information on production and markets in Italy, taken from secondary data and site visits, was used for comparative purposes. Two methodological approaches were used:

The market chain analysis

An analysis of the organization of the market chain and identification of the actors involved in the cultivation, processing, and trading of the products was conducted through key informant interviews. Semi-structured interviews were carried out with farmers, farmer-traders, millers and retailers. The interviews covered: market actor profiles, product quality, quantities and costs, operating costs and sales quantities and prices.

The livelihood survey of emmer farmers

Household surveys using a semi-structured questionnaire and informal group discussion with emmer farmers were carried out. The questionnaire covered: household profile, land and resources, product and seed, uses and consumption, labour and market issues.





The study described in this brochure was conducted in 2006 by Alessandra Giuliani, Visiting Research Fellow at Bioversity International, in collaboration with Dr Alptekin Karagöz and Dr Nusret Zencirci from the Central Research



Institute for Field Crops (CRIFC) in Ankara, Turkey. The research was carried out within the framework and scope of the Diversity for Livelihoods Programme of Bioversity International and the Global Facilitation Unit of Underutilized Species (GFU).

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